

iConverter

iConverter® NMM Network Management Module

The *iConverter* Network Management Module (NMM) is the heart of the *iConverter* management system. It supports SNMPv1, SNMPv2c, SNMPv3 and Telnet protocols, and features a 32-bit, high performance RISC microprocessor executing a real-time operating system. SMNPv3 provides secure access to devices by a combination of authenticating and encrypting packets over the network.

The NMM manages all converters and chassis power supplies within its management domain (modules and chassis connected to the NMM), continuously collecting status and module information. It reports the collected status via the SNMP protocol to the network management applications.

The NMM features a serial port for initial configuration, a front-plane RJ-45 Ethernet port, a backplane Ethernet port and a pair of multi-chassis cascade ports.

The Ethernet backplane port is used to connect adjacent *iConverter* modules in the same chassis (in-band management), offering direct Ethernet backplane access to the NMM. External management (out-of-band) is accomplished via the front-plane Ethernet port, facilitating IP based element management using *NetOutlook*® or third-party SNMP management applications.

The NMM utilizes Operations, Administration and Maintenance (OAM) services for carrier-grade network access with comprehensive provisioning and network monitoring. It features IP-based and IP-less management of *iConverter* equipment within the management domain.

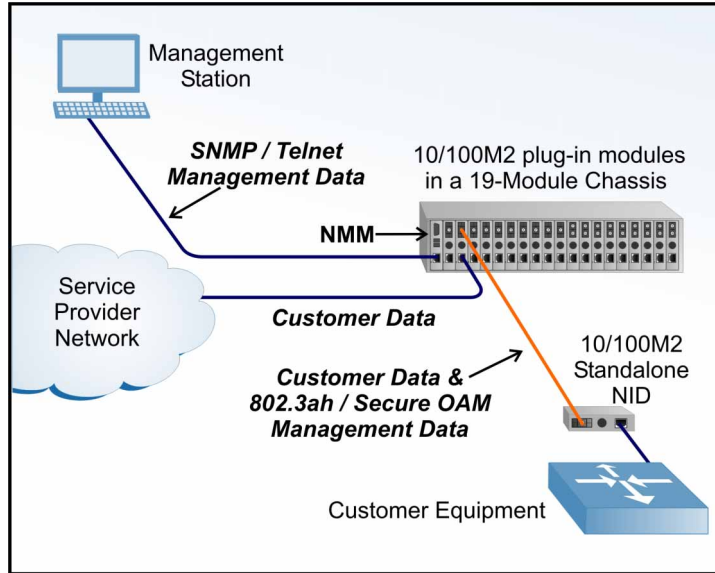
The NMM supports IP-less management through the IEEE 802.3ah management channel and Omnitron's Secure and encrypted management channel. With IP-less management, an NMM in a chassis at the network core can manage up to 18 *iConverter* Network Interface Devices (NIDs) at different edge locations with a single IP address. This capability simplifies IP address management, improves network security, and conserves the use of IP addresses.

When managing high-density configurations in a Central Office or network core, the NMM can cluster (daisy-chain) up to 19 chassis into a single IP address. In this configuration, NMM modules within each chassis are connected to each other over a high speed serial connection.



- The *iConverter* NMM provides real-time management, trap notification and remote configuration of *iConverter* equipment within the same domain
- Utilizes IEEE 802.3ah and Omnitron's Secure IP-Less OAM management channels for managing remote chassis in the same domain
- Up to nineteen chassis can be linked to form a domain and be managed by a single IP address
- Managed via the Ethernet backplane, the front-plane RJ-45 Ethernet port, or the front-plane serial port
- Supports SNMPv1, SNMPv2c, SNMPv3 and Telnet protocols
- Supports Dying Gasp power loss trap notification
- SNMP management via Omnitron's *NetOutlook* management software, or third-party SNMP management software
- Password protected to prevent unauthorized access
- LED displays for immediate visual status of each port
- Hot-swappable in 19-Module, 5-Module, or 2-Module chassis
- Lifetime Warranty and free 24/7 Technical Support

IP-less management requires an NMM in the core chassis, and a media converter with integrated management installed at each remote end of the IP-less managed link. An *iConverter* 10/100M2 plug-in module is installed in the 19-Module chassis, and connected via the fiber link to a standalone 10/100M2 Network Interface Device (NID). This configuration enables the 19-Module master chassis to establish an IP-less management channel between the 10/100M2 link partners. The IP address resides only at the network core, and does not exist on the customer network.



SPECIFICATIONS

Model Type	NMM
Protocols	IP, UDP, SNMPv1, SNMPv2c, SNMPv3, Telnet, TCP, FTP, ARP, ICMP, 802.3ah
Connectors	RJ-45, DB-9
Controls	UTP cross-over, Frontplane / Backplane
LED Displays	Power, Power Supply (3), UTP link, Master, Slave, Mgt. Poll
Supported MIBs	RFC1155, RFC1156, RFC1157, RFC1212, RFC1213, OST MIB
Dimensions	W:0.85" x D:4.5" x H:2.8"
Weight	8 oz.
Compliance	UL, CE, FCC Class A, NEBS 3
Power Requirement	0.32A @ 3.3VDC (typical)
Temperature	Standard: 0 to 50° C Wide: -40 to 60° C Storage: -40 to 80° C
Humidity	5 to 95% (non-condensing)
Altitude	-100m to 4000m
MTBF (hrs)	786,000

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091-18000-001H

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MANAGEMENT

Active Controls

- Link Propagate/Link Segment
- Remote Fault Detection
- Module Name
- Chassis Name and Number
- IP Address
- 802.3ah OAM Enable
- Secure IP-less OAM Enable
- Subnet Mask
- Gateway
- Management Port Disable
- Alarm Threshold Setting
- Download Software via FTP
- Reset Chassis
- Telnet
- Trap IPs
- FTP Enable
- Password Selection
- Soft Switch Reload

Alarms / Traps

- Warm Start
- Link Up/Down
- Chassis Insertion/Removal
- Authentication Failure
- DIP-Switch Configuration Change
- Software Configuration Change
- Temperature Out-of-Range
- Power Supply Out-of-Range
- Power Supply Insertion/Removal
- Chassis Reset
- Module Reset
- Module Insertion/Removal
- Port Link State Change
- Redundancy Primary Up/Down
- Redundancy Secondary Up/Down
- FTP Session Open/Close
- Telnet Session Open/Close
- Dying Gasp (Power Loss Trap)

Chassis Information

- Part Number
- Serial Number
- Revision
- Description

Chassis Status

- Power Status
- Power Output Voltage
- Chassis Temperature

Module Status

- Module Power
- Link Status
- Active Port
- Diagnostic Status
- Management

Module Information

- Module Type
- Slot Occupied
- Part Number
- Serial Number
- Configuration
- Revision
- Ports on Module
- User-defined Identifier

ORDERING INFORMATION

Model	Description
8000-0	<i>iConverter</i> NMM Module w/ Dying Gasp Support
8080-3	NMM Cascade Cable (3 ft.)
8081-3	NMM Serial Cable (DB-9, 3 ft.)

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